GOVERNMENT OF INDIA
AGRICULTURE AND FARMERS WELFARE
LOK SABHA

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Research and Development Work in Agriculture
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Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) the details of the research work undertaken by various Research Institutes/organizations in the agriculture sector during the last three years and the current year;

(b) whether the Government has identified priorities for agricultural research needed for fast pacing the farm growth, if so, the details thereof;

(c) whether the Indian Council of Agricultural Research (ICAR) proposes to re-orient its research and development works in agriculture and to bridge critical gaps during the last 12th Five Year Plan period;

(d) if so, the steps taken by the Government to bring excellence in such research work;

(e) whether there is a need to revise the course curriculum of agricultural education to make it more relevant and farmer friendly, if so, the details thereof along with the criteria fixed by the Government for such revision; and

(f) whether there is shortage of agricultural scientists in research work and a large number of posts of agricultural scientists are lying vacant for several years, if so, the steps taken by the Government to fill up these vacant posts?

Answer

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE
(DR. SANJEEV KUMAR BALYAN)

(a) The research under the auspices of Indian Council of Agricultural Research (ICAR) is being undertaken through 100 Plan schemes comprising Research Institutes, Project Directorates, National Research Centres, Research Complexes and Bureaus in various States during the last three years and the current year. ICAR research institutes undertake the basic and strategic research programmes related to crop/animal/vegetables/fruit/fish improvement and development of production and protection technologies to form a base for applied research. The research programmes have given special emphasis on the development of new crop varieties/hybrids with improved quality and tolerance/resistance to biotic and abiotic stresses and making crops and livestock species able to withstand the weather extremities. Targeted integration of economically important genes through structural and functional genomics/molecular breeding has also been focused during the 12th five year plan and this activity is being further strengthened. The information so developed is used by respective All India Coordinated Research Projects (AICRPs) and All India Network Projects (AINPs) located in different state agricultural universities, to develop location-specific varieties/breeds and technologies as per the agro-ecological needs for enhancing the production and productivity. More recently, special focus has been given towards development of technologies for 'more crop per drop', soil health, promote mechanization of small farms, improve farmers' income, usher protein revolution through enhancing pulse production and blue revolution, make India self-reliant in edible oils, meet information needs of farmers through community radio and ensure effective transfer of technologies through Lab-to-Land programme. India joined the Svalbard Global Seed Vault to safeguard global food security for the coming generations. In cutting edge science, the genetic blue print of bread wheat genome was unveiled in collaboration with the International Wheat Genome Sequencing Consortium. Major breakthroughs were also achieved in the area of buffalo cloning. Most of these areas are being further strengthened.

(b) Yes, Madam. The ICAR has identified priorities and accordingly embarked upon several new programmes and initiatives that aim at improving the efficiency and impact of research by enhanced application of frontier sciences as space science, remote sensing, biotechnology and information and communication technology. State of the art research facilities have been created in several institutes and the research infrastructure is continuously strengthened. Existing institutes are being strengthened and new research institutes/ Universities being established in states/regions where such strengthening was required. In this direction new IARI like institutes have been established in Jharkhand and Assam and new Agricultural and Horticultural Universities have been established in Andhra Pradesh and Telangana respectively. Establishment of National Gene Bank, High Security Animal Disease Laboratory, National Bureau on Agriculturally Important Microorganisms, National Institute on Abiotic Stress Management and launching of National Initiative on Climate Resilient Agriculture, National Fund for Basic, Strategic and Frontier Application Research in Agriculture (NFBSFARA) have enabled bringing excellence to agricultural research.

(c) & (d): Yes Madam. In order to bridge the critical gaps following new projects were also initiated during the XII Plan:-

With a view to provide critical mass and the resources necessary for conducting more meaningful research, the Indian Council of Agricultural Research has recently introduced Agri-Research Consortia Platforms (Agri-CRP) to fortify and encourage the innovative

research approach to take up national problems that have been perceived over time. The consortia mode would enable multiple stakeholder-ships and handholding of various institutions and laboratories that were working in the same field in an isolated manner and required a coherent and coordinated approach. Consortia Research Platforms have been initiated in the 16 key areas which are, Agro- biodiversity Management, Hybrids, Molecular Breeding, Biofortification, Borers, Nanotechnology, Phyto-chemicals & High Value Compounds, Conservation Agriculture, Water, Farm Mechanisation, Energy in Agriculture, Health Foods, Secondary Agriculture, Natural Fibre, Diagnostics & Vaccines and Genomics.

In addition, following key programmes have also been initiated:-

â€¢ Attracting and Retaining Youth in Agriculture (ARYA)-conceptualized for mentoring/handholding rural youth in villages by providing technical and financial support to upscale/commercialize promising technologies and grass root innovations.
â€¢ Agriculture and Technology Forecast Centre (ATFC)-to identify and develop technological needs for precision and forecasting in various domains of agriculture.
â€¢ Farmers FIRST-an initiative to move beyond the production and productivity and to privilege the complex, diverse & risk prone realities of majority of the farmers through enhancing farmers-scientists contact with multi stake holders-participation.
â€¢ Centre for Agricultural Bioinformatics (CABin)-integrates a number of organizations to provide computational framework and support to carry out biotechnological research. Extra Mural Funds- to fund short-term result oriented time-bound projects to address critical gaps of research.
â€¢ A major initiative has also been taken to strengthen and KVKs during 12th Plan with budgetary outlay of Rs 3900 crores. For more effective coordination of the transfer of agricultural technologies, the number of Zonal Project Directorates has been increased to 11 from earlier 8 and their status has also been upgraded as Agriculture Technology Application Research Institutes (ATARIs).

These initiatives would provide an opportunity to enhance higher plane of research capability and enhanced sharpness for solving critical issues of agriculture.

(e) The curriculum of Agriculture education is revised at regular intervals through Deans Committees to make it more relevant and farmers friendly with reference to the relevant key areas. Important issues addressed include; defining UG & PG degree for general market needs and for specialized jobs and uniformity, restructuring UG practical for increased practical and practice contents, central assistance for strengthening Higher Agricultural Education, guidelines for assessing the training needs and performance of teaching faculty, reforms in Governance in SAUs and developing a model DPR for establishment of Colleges.

In addition, Student READY programme encompassing skill development, experiential learning, Rural awareness and in-plant training has been developed as a component of UG course curriculum.

(f) No Madam, the National Agricultural Research System (NARS) is a vast network with ICAR institutes, State Agricultural Universities (SAUs)/ Central Agricultural Universities (CAUs)/Krishi Vigyan Kendras (KVKs) spread across the country which meets the requirement of human resources engagement in the field of agricultural research/education/extension. The responsibility of filling up the vacant positions pertaining to different SAUs vests with them and they work under the respective State Government. So far as ICAR is concerned, the Agricultural Scientists Recruitment Board (ASRB) an independent recruitment agency is responsible for filling up of scientific positions both through the process of direct recruitment under Agricultural Research Service (ARS) examination and lateral entry for senior scientific positions.
Recruitment of ICAR Scientists is a continuous process. All the possible steps are being taken to fill vacant positions for agricultural scientist on priority basis through ASRB. During the last 18 months more than 1000 different scientific posts of different levels have been filled up/advertised for recruitment. Out of overall scientific cadre sanctioned strength of 6313 in the ICAR less than 10% of posts are vacant.

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